



Natural Heritage & Endangered Species Program

Commonwealth of Massachusetts
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THREATENED SPECIES OF MASSACHUSETTS

Pale Green Orchis

(*Platanthera flava* (L.) Lindl. var. *herbiola* (R. Br.) Luer)

DESCRIPTION: Pale green orchis is a leafy, single-stemmed terrestrial orchid arising 15 - 60 cm (6 - 24 in.) from fleshy, tuber-like roots which slowly spread into small clumps or colonies. The stem bears 2 - 5 broad, shining dark green, clasping leaves 7-20 cm, (3-8 in.) long decreasing in size as they ascend the stem. The upper stalk carries a dense to loosely cylindrical spike of 10-40 small, greenish or greenish-yellow flowers interspersed with many elongated leafy bracts, extending well beyond the flowers. The flowers are highly asymmetrical with the upper petals and sepal forming a broad hood, and the lower petal shaped into an oblong, strongly undercurved lip. The two remaining lateral sepals bend behind the flower. At the back of the lip there is also a downward-projecting tubular spur, the nectar-bearing organ of the flower. Several details of the lip structure distinguish this species: the end of the lip is wavy or irregularly few-toothed, as opposed to fringed; both sides of the base of the lip margin widen into two small lobes (auricles); and, a small but conspicuous outgrowth called the tubercle lies about midway down the inside of the lip which distinguishes the species from all others. Flowering normally occurs from mid-June through mid-July. Shortly afterward, the petals, lip, and spur rapidly blacken, while the ovary and sepals remain green throughout the summer. This characteristic can extend the time period for identifying the species.

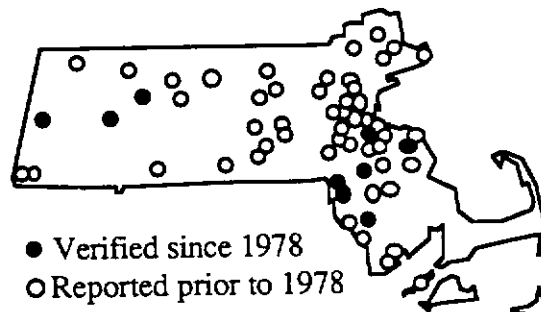
SIMILAR SPECIES: The typical *Platanthera flava* var. *flava* is a smaller, shorter-bracted and less leafy plant whose range is mostly southern and does occur in Massachusetts. Pale green orchis is very similar to and often confused with the long-bracted orchis (*Coeloglossum viride*) which is sometimes in the same habitat as the pale green orchis,



Adapted from *Minnesota's Endangered Flora & Fauna*, Coffin & Pfannmuller, eds. State of Minnesota, Dept. of Nat. Res. 1988.



Documented Range of
Pale Green Orchis



● Verified since 1978
○ Reported prior to 1978
Distribution in Massachusetts by Town

although it is more commonly on rich, wooded slopes. Long-bracted orchis has no odor whereas the flower of the pale green orchis is sweetly fragrant. The lip of long-bracted orchis flowers has two short teeth on the tip, and that of the pale green orchis is blunt.

RANGE: Pale green orchis is distributed from New Brunswick and Nova Scotia south to Maryland and the high Appalachians, west to Missouri and Minnesota. This relatively widespread species occurs only sporadically throughout most of its range.

HABITAT IN MASSACHUSETTS: This orchid prefers sunny to semi-shaded habitats where soils are generally rich, moderately acidic and wet, and where periodic flooding or water level fluctuations are common. These habitats range from lowland forested streamside swamps and floodplains with a sparse shrub-herb understory and moderate tree canopy dominated by red maple, American elm, and white ash, to open river shores with alder, willow, smooth rose, purple loosestrife, and occasionally ragged fringed orchis (*Platanthera lacera*). It is also found in open, wet situations under powerlines where meadow-sweet, ferns, and sedges are the dominant vegetation. Historically, pale green orchis occurred on pondshores and more commonly in wet meadows; habitats, which like river shores and floodplains, favor species that tolerate disturbance in exchange for reduced competition from other species and increased sunlight. Pondshores are periodically exposed and inundated, whereas meadows are commonly kept open by grazing or mowing.

POPULATION STATUS: Pale green orchis is relatively widespread in the northeastern United States, and yet it appears to be rare or threatened throughout most of its range. This orchid is currently listed by Massachusetts as a "Threatened" species. As with all species listed in Massachusetts, individuals of the species are protected from take (picking, collecting, killing...) and sale under the Massachusetts Endangered Species Act. Since 1978, only 11 stations in eight towns have been discovered and verified. The populations are mostly small and only two sites have over 100 plants. Prior to 1978, 58 stations in fifty-two towns were vouchered, many of them from wet meadows, habitats once prevalent throughout Massachusetts.

MANAGEMENT RECOMMENDATIONS:

As with most rare plants, exact needs for management of pale green orchis are not known. The following advice comes from observations of the populations in Massachusetts. While pale green orchis grows in swamps, floodplain forests, and more open habitats, it is not able to grow in shade, requiring either full or partial sun. In order to assure the continued presence of this species in Massachusetts, the prevention of ecological succession, such as annually mowed meadows, is critical. Forest succession of its open habitats is thought to be a major cause for its decline. The continual urbanization of eastern Massachusetts has also undoubtedly been a principal cause of the severe decline of this orchid.

Because of the desirability of the plant to gardeners, protection of the pale green orchis against vandalism and illicit removal by collectors is also critical in maintaining its present sites in the state. Precise location information should not be generally disseminated.

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